



white paper

HP Print Server
Appliance 4250

September 2004

Unidriver Interoperability on the Print Server Appliance

(PSA Firmware version 2.5.x and above)

Overview

The new Unidriver architecture pushes some of the more advanced printing functions like Watermark, n-up, and booklet from the driver to the appropriate print processor on a print server. PSA Firmware version 2.5.x ensures that the PSA has the ability to respond correctly to these advanced printing requests.

Description of the HP Print Server Appliance

The PSA is a network device used to manage and monitor printing. It has been designed to provide a quick and easy way to add print capacity, manage printer drivers, and off-load print spooling and services from the general-purpose servers. The latest firmware version is 2.5.x, which includes support for Web JetAdmin plug-ins providing centralized management of the printing environment and infrastructure. In addition, 2.5.x also includes support for the new Microsoft printer driver architecture called Unidriver, (known as Client Side Rendering, or CSR).



Figure 1 – HP Print Server Appliance 4250

Unidriver Architecture

In the Unidriver architecture, some of the built-in rendering features like Watermark, N-up, Rotate 180*, Zoomsmart, Back to Front, that were normally processed within the driver are now moved out of the driver and into the Print Processor (PP). While this change is functionally transparent to users in a Windows environment, it has created a potential feature loss in the PSA. This feature loss is caused by the lack of a Print Processor on the PSA. Since these advanced features are no longer part of the driver, they do not get automatically sent to the client during normal point and print operation. These advanced functions will never get processed or rendered by the PSA.

It is important to note that when these special printing functions are selected within the application itself during a print job, there is no loss of functionality, and the job gets processed completely.

PSA Firmware 2.5.x and Unidriver

Firmware version 2.5.x supports both the earlier monolithic printer drivers as well as the newer Unidriver architecture. For Unidriver-based printers that are installed on the PSA, two copies of the driver are created: one for normal operation when there is no loss of functionality, and one version to handle the special printing functions through a process called Client Side Rendering (CSR). In CSR, a special driver is selected for use on a print share by the PSA administrator. This driver makes it possible to properly handle the advanced printing functions by having the PSA negotiate with the client PC to handle the advance printing features locally, and sending the completed printer ready bits through the PSA. This process is invisible to the users and will not require any additional training on the clients part or require any change in the client PC configuration. The only change that will be visible will be an extension of "CSR" which, once installed on the client, will be added to the end of the print share names (as ".CSR") and the printer driver name (with "CSR"). This is necessary to keep the CSR and non-CSR drivers separate.

In most cases using the non-CSR version of the printer drivers when creating print shares is the recommended procedure. Only when there is a loss of functionality through the print preferences section should you consider using the CSR version of the driver.

Changes to the Driver Management page

If the driver being installed is identified as a Unidriver, the PSA will automatically generate two copies of the drivers: one for non-CSR operation and one for CSR operation. As the administrator, you may see two "Copy" dialog boxes appear during the installation process. Wizard or Monolithic drivers will install the same way as before.

On the Driver Management page, there is a new checkbox that allows the user to view only those drivers capable of Client Side Rendering (Figure 2). Previously installed Unidrivers on earlier versions of firmware will have to be re-installed onto the PSA after the firmware has been upgraded to 2.5.x in order for the CSR compatible drivers to be properly recognized.

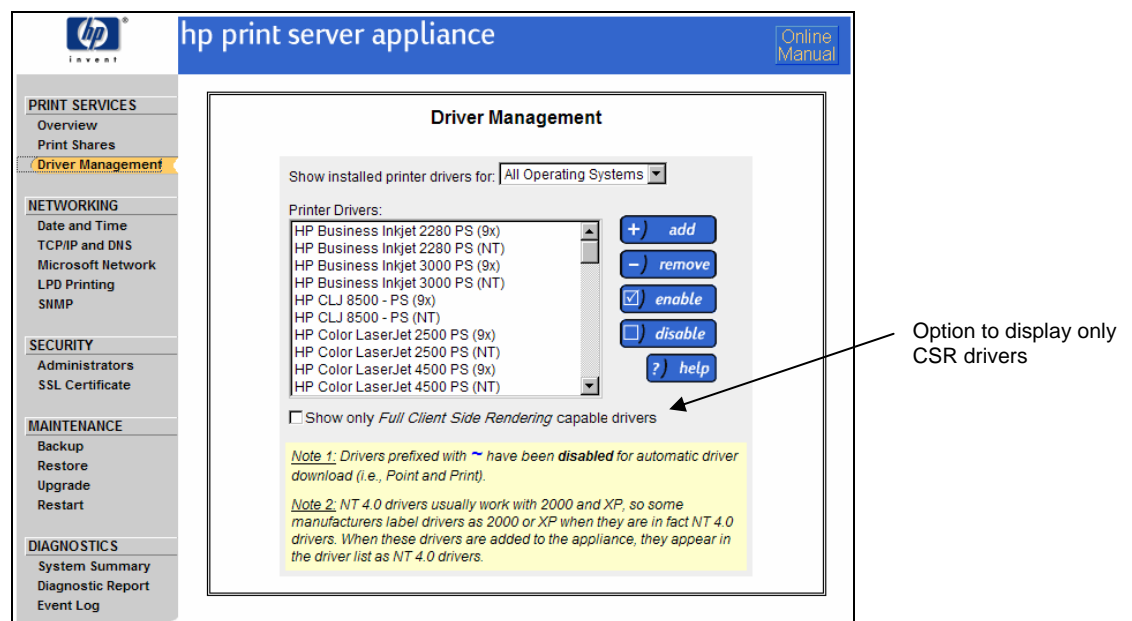


Figure 2 – Driver Management page (Firmware version 2.5.x)

Changes to the Printer Installation screen

In most cases, Print Share installation and configuration remains unchanged. During Print Share installation, you must decide whether to use the Non-CSR or CSR version of the driver (Figure 3). The following criteria might help you make your decision. If you:

- are not experiencing any loss of functionality, such as watermark, N-up, rotate 180 degrees, etc., when printing, use the non-CSR driver.
- have NT and 2K/XP clients bound to the same shares, use the non-CSR driver.
- are experiencing a loss of printing functionality, use the CSR driver.

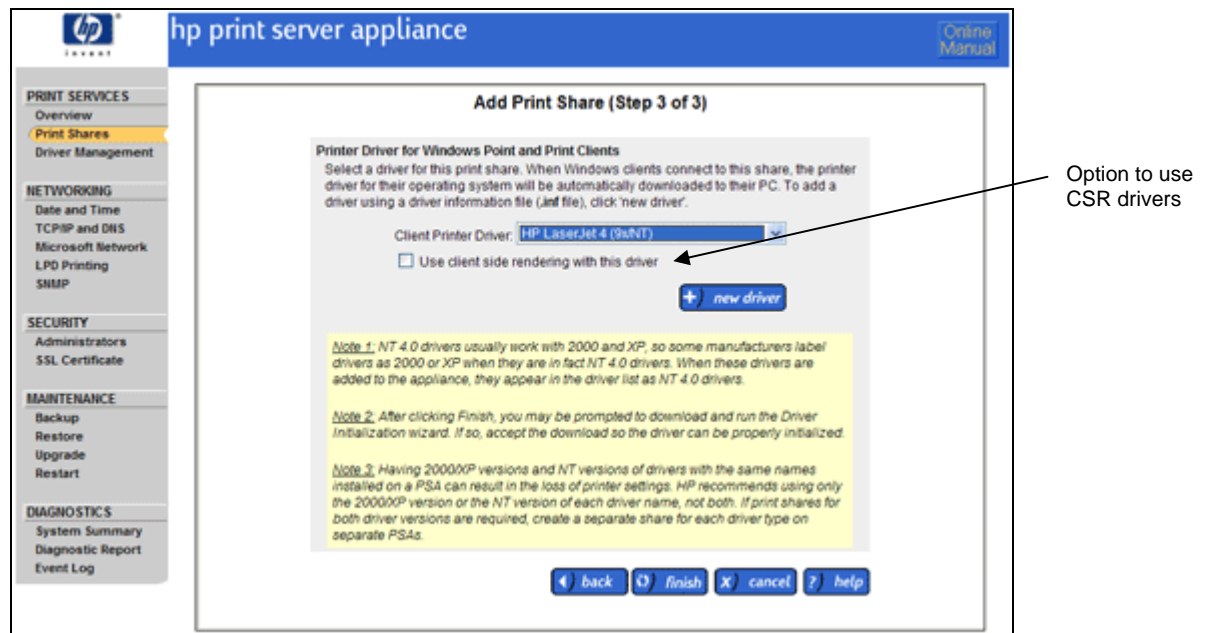


Figure 3: Add Print Share page (Firmware version 2.5.x) showing CSR option

Selecting the CSR Driver

To select the CSR driver for the print share installed (Figure 3 above), select the driver you are installing from the pull down list and then click in the box that says "Use client side rendering with this driver". If the driver does not support CSR, an error message is displayed indicating so.

Using the Server Migration Tool

Depending upon how the Server Migration Tool was accessed, the **Authorization** page is displayed at different points. After this page is displayed, follow these steps to proceed with the Server Migration Tool.

Note: If the **Authorization** page is not displayed go to Step 2 in this section.

Questions and Answers

1. What is the procedure to enable CSR functionality on my existing printer?

If you have not already done so while the PSA is at Firmware version 2.5.x, you must reinstall the printer driver onto the PSA in order for it to be recognized properly. From the Print

Shares page, click on the Driver tab for the printer you want to change. Select the driver from the pull down list, then click the box for "Use client side rendering with this driver" (see Figure 3 displayed earlier).

2. **Do I have to enable CSR on any or all of my printers?**

Unless you are having problems printing Watermark N-up, Booklet, Rotate 180*, or other advanced features from your 2K or XP clients, you should not have to use the CSR version of the driver.

3. **I have a mixed environment of NT and 2K/XP clients. What is recommended?**

We recommend using only NT drivers on the PSA when you have a combination of NT 2K, and XP clients printing to the same queues. If you select the CSR driver for a print share, your NT clients will not be able to print to that share.

4. **How do I distribute CSR drivers across all PSAs?**

Once the drivers are installed and initialized on a PSA, they can be distributed to the rest of your PSAs through the use of the Driver Distribute function in Web Jetadmin.

5. **Can I return to using the non-CSR version of the driver on my PSA?**

Yes. Go to the PSA's Print Shares page and click on the Driver tab for the printer you want to change. Select the driver to change but do not select the option for using CSR.

6. **How can I tell if a printer driver I am using is a Unidriver?**

From the PSA's Driver Management page, click the button for "Only show driver capable of client side rendering" (Figure 2 displayed earlier). If your driver shows up in this list, then it is a Unidriver and is capable of using the CSR features. Otherwise, reinstall the printer driver onto the PSA if you believe it to be a Unidriver.

Summary

The new Printer Driver architecture (Unidriver) will continue to be developed by multiple printer driver vendors. PSA firmware version 2.5.X now provides support for these printer drivers through the use of Client Side Rendering. In most cases using the Non-CSR version of the driver will continue to work fine. In the event that there is loss of functionality during printing, the use of the CSR driver is the solution when printing through the PSA.

For More Information on the PSAs

<http://www.hp.com/support/printappliance>

http://www.hp.com/go/psa_whitepapers

http://www.hp.com/go/wja_whitepapers